

October 1, 1956

To: R. M. Bissell
From: C. L. Johnson
Subject: CURRENT AGENDA

1. Flight Test Program

A detailed flight test program is submitted to indicate how we will meet our present known commitments. This test program indicates a requirement for only one test airplane in order to complete work now in sight by the first of February, 1957. This is possible because some of the tests not requiring specialized technique or instrumentation are to be done in training aircraft. A typical example is the defogging test program.

Each test subject is briefly discussed on the pages following this agenda. The scope of the individual tests are according to the latest information furnished to us directly or indirectly from the various suppliers. Suggestions or changes to the program or schedule are invited from the component suppliers.

The program includes only those items pertinent to the original project. The fact that the follow-on project will support some later tests must be considered.

2. State of vehicle and components.

STAT The J-2 compass is being replaced with the MA-1 compass in all aircraft in order to provide a far north navigation capability. Since is not to be operational with these aircraft, the space and weight required for that system has been partially used to install the MA-1 compass.

The autopilot operation has been improved and the ground checkout procedure developed during September appears to be satisfactory although more experience is required to validate this. The instrumentation required to run this check in the field is now being obtained. The new mach sensor is a definite improvement and will be incorporated in all aircraft.

Defoggers have been designed and are in production for both factory and kit installations. The defogging tests to date indicate that our water vaporizer more than simulates the atmospheric conditions obtained in a hot, humid climate. The windows have been fogged over and then cleared by use of a combination heater and blower.

STAT The next phase of this program is to fly the defogg units on an accelerated schedule with the actual operational cameras both and with the detachments. To this end, the defogg kits consisting of ducts, heaters, blowers and associated wiring were shipped to the detachment last week for the A1 and A2 camera configurations.

The oil vapor present in the -37 engine bleed air is still very bad. Better seals are a definite requirement for these engines.

3. Supplier Schedules

Component suppliers in general have not been keeping their deliveries current or ahead of the aircraft deliveries. Every effort must be made to consider aircraft delivery dates in the scheduling of components in order for the delivered article to be truly complete and not subject to further work STAT

The above comments apply particularly to the scheduling

of A and B hatch windows which are in very short supply. A similar problem will occur with C hatch windows if not scheduled soon.

4. Personnel support problem.

A separate listing of the problem areas concerning personnel morale is submitted to indicate recommendations and changes believed necessary to properly support the men in the detachments.

5. Follow-on aircraft operations.

A decision in favor of production flight testing the follow-on aircraft [] would be very desirable at this time. The use of [] facility is favored by several of the suppliers for their future component testing when required.

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A decision at this time would give us the lead time required to get the facility ready [] to phase in the type of assembly and production flight testing which is now performed []

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6. Fuel

A decision is required on the type of fuel to be provided for the follow-on aircraft. Flight test to date has uncovered no problems in the use of JP-1.

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CURRENT FLIGHT TEST PROGRAM

A/C

OCT

NDV

DEC

JAN

A CAMEZAS

TRAIN.

B CAMERA

TRAIN.

C CAMERA

351

TRACKER

NONE	REQUIRED
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DRIFT SIGHT

35

SEX TANT

NONE REQUIRED

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MA-1 COMPASS

351

AUTOPILOT

351

STAT

JP-1 FUEL

331

257-31 ENGINE

351

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A CAMERAS

Flight test on these cameras are essentially finished although twelve flights are yet required for improved film processes and the defogging tests. These flights will all be using training aircraft.

B CAMERA

Each of these cameras as they are finished require flight test in order to establish their reliability. The present plan is to operate each individual B Camera until it has completed two missions all the way. One other flight test is still required that must be flown at night with the rollite instrumentation. Also required with B Camera will be four or five flights with the new defogging system installed on the hatch. These tests will all be done on training aircraft.

Note here that the B cameras for the follow-on will each probably require the same type of operational flight test.

C CAMERA

The prototype C Camera is expected to be ready for flight test about November 1st. The prototype flight tests are estimated to require approximately 150 hours and about three months elapsed time. These tests will be approximately two a week in order to permit evaluation of test results. This permits the testing of other systems during the same time period.

It appears that after prototype test work is completed each individual C Camera will require flight tests in order to establish reliability and focus. Since the C Camera schedule projects thru next summer this means that some kind of a flight test capability will be required until then.

DRIFT SIGHT

Flight tests with the drift sight to date indicate that drift and track can not be obtained accurately enough for tactical use. More drift sight tests will have to be run when improved drift sight optics and controls are available. The drift sight will also be evaluated in conjunction with Camera for both tracking rates and spotting accuracy.

As improvements become available they can be tested concurrently with other tests.

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MA-1 AND AUTOPILOT

The MA-1 compass system as installed becomes an integral part of the autopilot. This system is primarily required in order to supply the necessary [REDACTED] but it has major advantages for flight in the far north. This compass system and autopilot tie-in will be available during the [REDACTED]

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The autopilot test thus far indicates that the new ground checkout procedure may be a big improvement. More experience must be gained to prove this. The new mach sensor is a worthwhile improvement and will be retrofitted when available. This mach sensor will be installed in aircraft 351 before the start of the C Camera tests.

No special flight tests are necessary as it can be tested during the [REDACTED]

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JP-1 FUEL

Flight tests of the second cut have been completed and aircraft 357 will be operated exclusively on this fuel. The first cut will be tested for fuel tank pressures and air starts during the first week of October. If the first cut is also satisfactory it will also be used in aircraft 357. Depending on the outcome of these tests, more could be required although present indications are that it is satisfactory for our operation.

J57-31 ENGINE

A forged blade-31 engine is now installed in aircraft 351 and will be operated at 635 degrees jet temperature for 50 hours. When this has been accumulated the engine will be inspected and additional time allowance will be made on the basis of the condition of the engine at that time. If the engine is not satisfactory for re-installation, the -31 from aircraft 341 will probably be available for further flight tests required in 351.